



**Register Number:** 7376222AL183

**Student Name :** PRATHIKSHA S

**Seat No :** 20

**Project ID :** 20

**Project title :** Online Course System

### Technical Components

Component	Tech Stack
Frontend	React (JS library)
Backend	Node.js with Express.js
Database	MongoDB(NOSQL Database)
API	OpenAPI

### Implementation Timeline

PHASE	DEADLINE	STATUS	NOTES
Stage 1	-	Completed	Planning and Requirement Gathering
Stage 2	-	Under Proc...	Design and Prototyping
Stage 3	-	Not Started	DB Design and Implementation
Stage 4	-	Not Started	Backend Development
Stage 5	-	Not Started	Integration and Testing
Stage 6	-	Not Started	Deployment

## **PROBLEM STATEMENT:**

Despite the proliferation of online learning platforms, the current landscape presents several deficiencies that hinder the overall user experience and limit the effectiveness of online education. Deficiencies in Current Online Learning Platforms:

- ❖ **Fragmented Learning Experience:** Users encounter disjointed learning experiences due to courses being spread across multiple platforms, causing confusion and inefficiency.
- ❖ **Low Engagement and Retention:** Lack of interactive features and personalized learning paths results in low engagement and retention rates as users struggle to stay motivated and invested in their learning journey.
- ❖ **Inadequate Instructor Support:** Users face challenges in accessing timely support and guidance from instructors, leading to limited interaction and feedback, hindering learning progress and satisfaction.
- ❖ **Inefficient Progress Tracking:** Existing platforms offer limited progress tracking features, making it difficult for users to monitor learning progress, set goals, and track achievements effectively.

## **PROJECT-FLOW:**

### **Purpose:**

- **Personalized Learning:** Leverage progress tracking and task data to personalize learning paths and recommend relevant courses based on individual student needs and strengths.
- **Meaningful Collaboration:** Facilitate effective collaboration through real-time chat boards and task-specific discussion areas, fostering peer-to-peer learning and knowledge sharing.

### **Scope:**

- **Target Users:** Students seeking task-based online courses and instructors creating and delivering them.
- **Core functionalities:** User management (authentication), course management (creation, search, enrollment), content delivery (video lectures, tasks), interactive features (reviews, chat), and progress tracking.

## **Business Context:**

- **Market Gap:** Fills the need for a task-based online learning platform in a growing market.
- **Monetization:** Generates revenue through student subscriptions or instructor fees (or both).

## **Considerations:**

- **Security Focus:** Implement robust security measures to protect user data, course materials, and intellectual property.
- **Engagement Features:** Integrate features like forums or student progress tracking to boost engagement and keep users coming back.

## **Dependencies:**

- **MERN Stack (Essential):** React, Node.js + Express.js, MongoDB - Handles UI, server logic, API interactions, and data storage.
- **Optional Enhancements:** Pick from features like real-time chat, analytics, payment processing, and accessibility tools for a richer user experience.

## **User Personas:**

- **Student:** Seeks in-demand skills, tracks progress & connects with peers for a supportive learning journey.
- **Instructor:** Shares expertise by creating engaging courses, analyzes student data for course improvement.
- **Admin:** Oversees platform security, ensures smooth operation through updates and maintenance.

## **User Stories:**

- **Student:** I want to Browse courses and search for topics to find the perfect learning fit for my goals.
- **Instructor:** I want to Create engaging courses and share my expertise with a

wider audience.

- **Admin:** I want to Ensure the platform runs smoothly and securely, allowing users to enjoy a seamless learning experience.

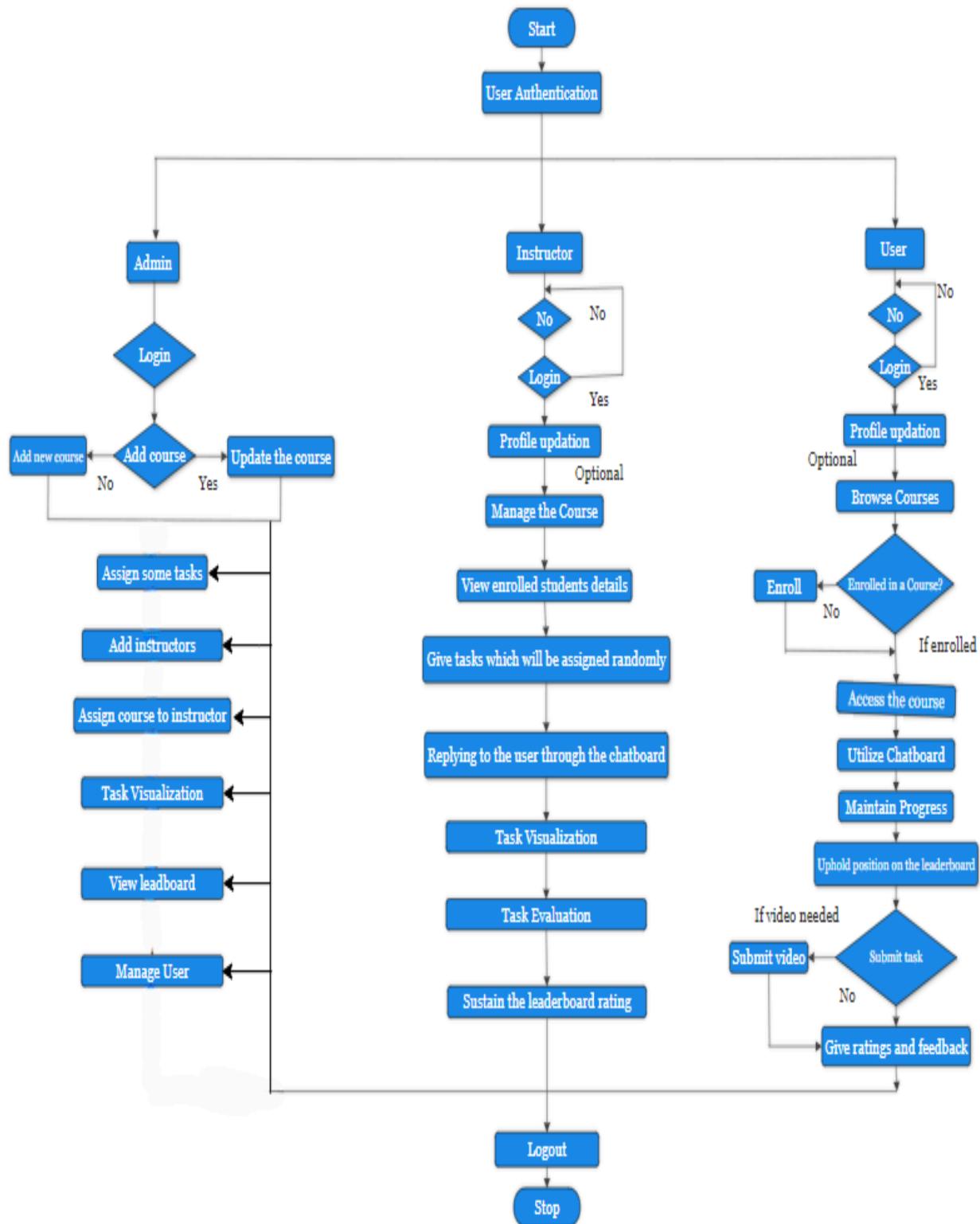
### **Functional Requirements:**

- ❖ **User Authentication:** Implement secure authentication mechanisms for both students and instructors.
- ❖ **Course Management:** Allow instructors to create, edit, and manage courses, including uploading course materials.
- ❖ **User Interaction:** Facilitate communication between instructors and students through a chat board.
- ❖ **Progress Tracking:** Provide users with tools to track their progress within each course and monitor their overall completion status.
- ❖ **Task Submission:** Enable students to submit assignments and tasks as part of their course requirements, with support for various submission formats.
- ❖ **User Reviews and Ratings:** Allow users to rate and review courses, providing feedback for instructors and other prospective students.
- ❖ **Responsive Design:** Ensure that the platform is accessible and user-friendly across different devices and screen sizes.

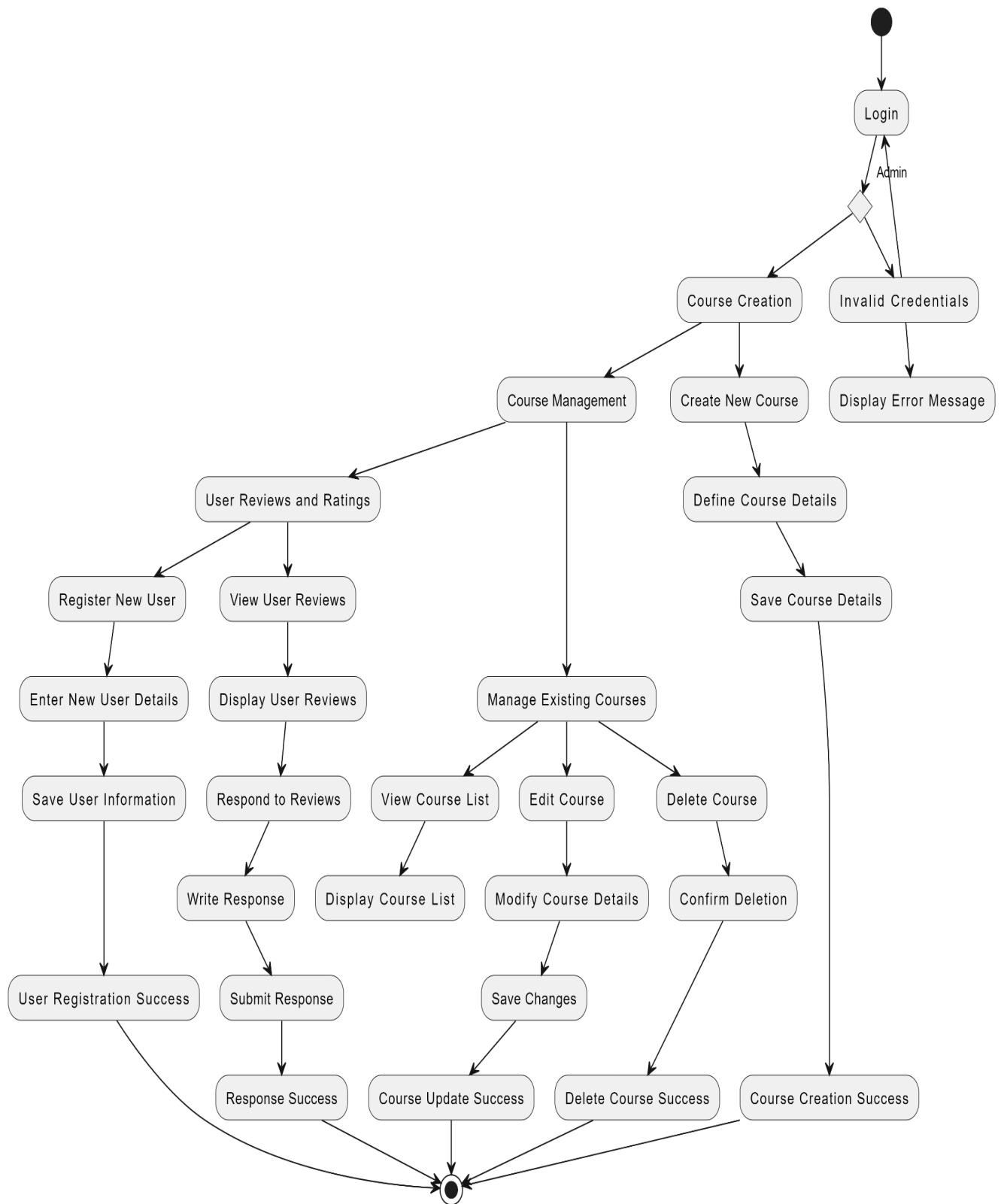
### **Non-Functional Requirements:**

- **Fast & Reliable:** Pages load quickly, videos play smoothly with minimal downtime.
- **Scales Upward:** Handles increasing users and courses without performance issues.
- **Secure & Private:** Protects data with secure authentication and encryption.
- **Easy to Use:** Intuitive interface for both students and instructors.
- **Accessible to All:** Follows accessibility standards for users with disabilities.

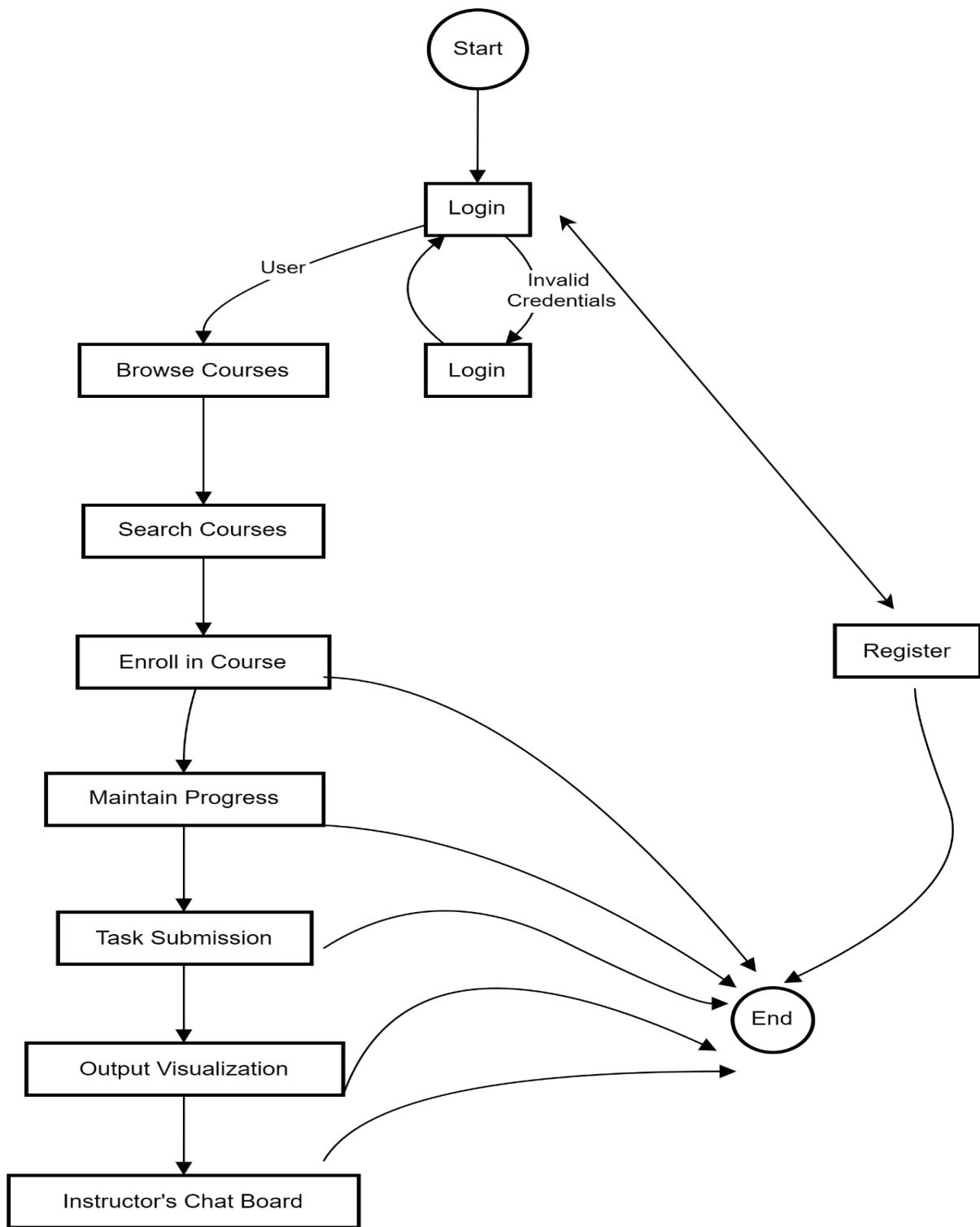
## FLOWCHART:



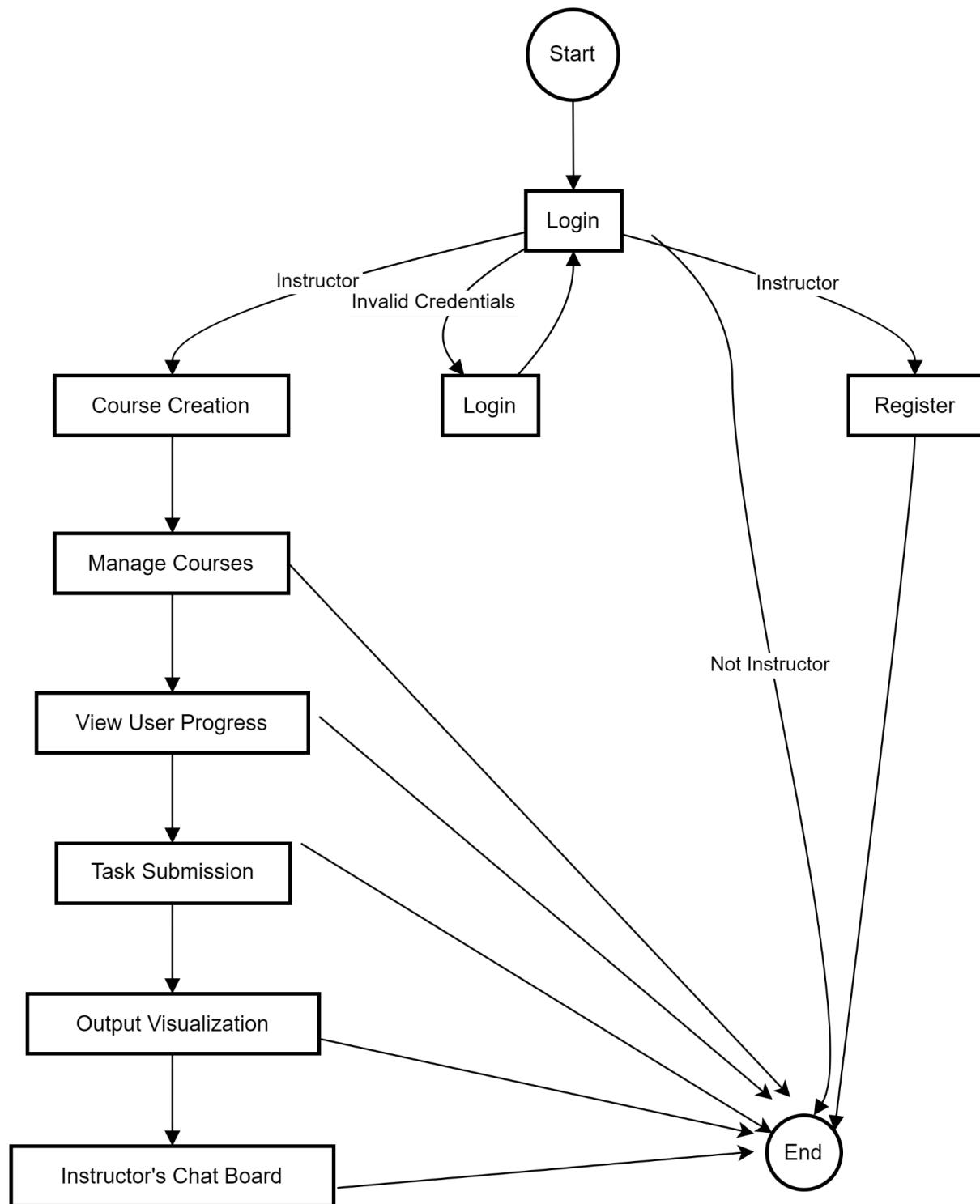
## ADMIN'S INTERFACE:



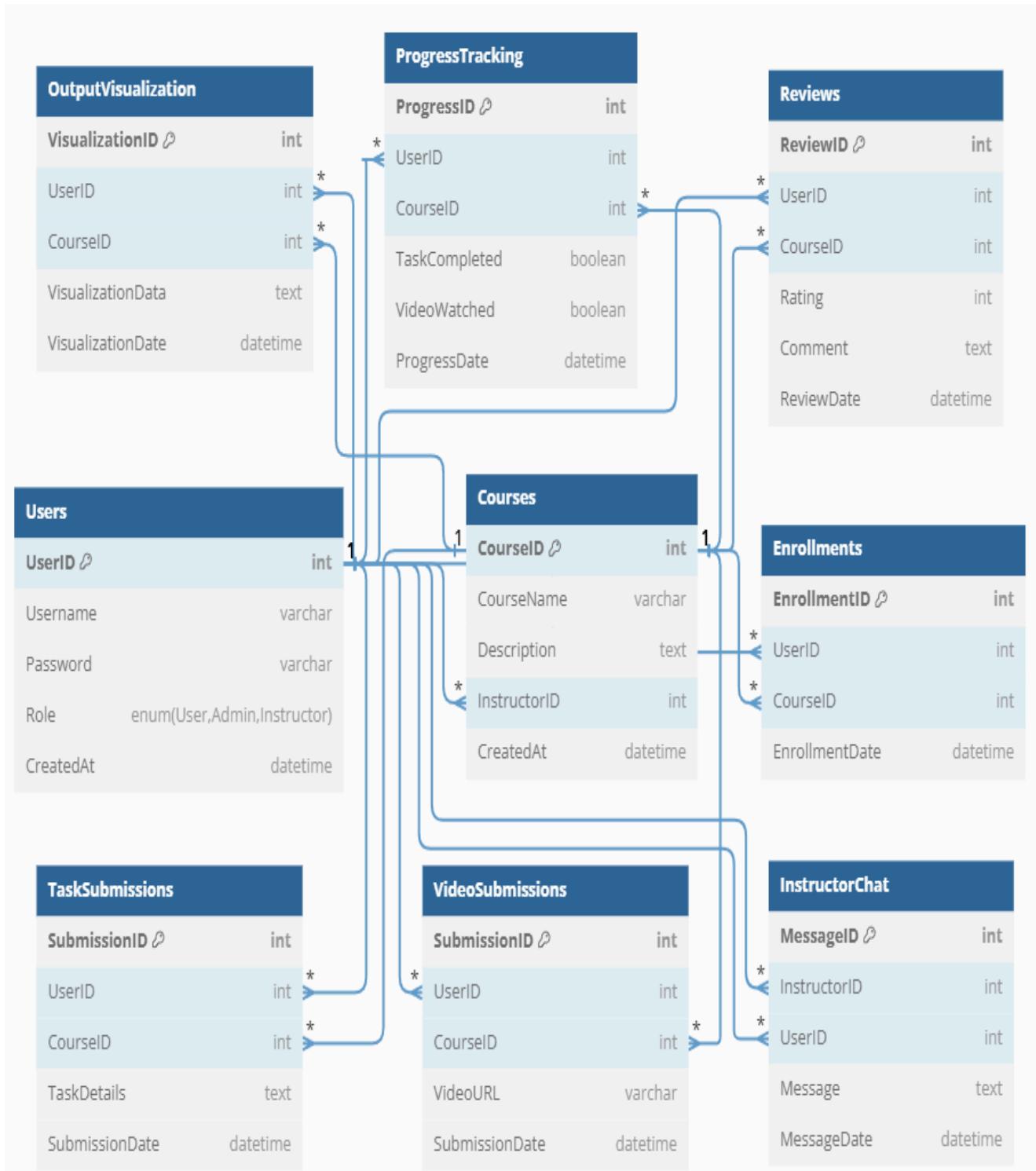
## USER'S INTERFACE:



## **INSTRUCTOR'S INTERFACE:**



## ER DIAGRAM (DB DESIGN):



## **PROTOTYPE:**

→ Registration

The registration page features the Bannari Amman Institute of Technology logo at the top left. Below it is the text "ONLINE COURSE SYSTEM". A central illustration shows a laptop displaying a dashboard with charts and graphs, while a person stands next to it pointing. Another person sits at a desk with a laptop, looking thoughtful. Two other people are seated in front of the laptop, looking at it. The background includes a potted plant and a pencil. At the bottom left, there is a link "Have an account? [login](#)". On the right side, the word "Register" is displayed in large letters. The form fields include "First name" (Prathiksha), "Last name" (Selvaraj), "Phone number" (+91), "Email" (prathiksha.al22@bitsathy.ac.in), "Role" (Student/Instructor), "Password" (\*\*\*\*\*), "Confirm Password" (\*\*\*\*\*), and a "Remember Me" checkbox. A large red "Create account" button is located at the bottom right.

→ Student Login Page:

The student login page features the Bannari Amman Institute of Technology logo at the top right. Below it is the text "ONLINE COURSE SYSTEM". A central illustration shows a person standing at a desk, interacting with a computer monitor that displays a dashboard. The background includes a potted plant. At the bottom left, there is a link "Are you a student? [login](#)". On the right side, the text "Login to your Account" is displayed. It includes a "Continue with Google" button with the Google logo. Below it is a link "Or Sign In With Email-----". The form fields include "Email/Register number" (prathiksha.al22@bitsathy.ac.in), "Password" (\*\*\*\*\*), and a "Remember Me" checkbox. There is also a "Forgot Password?" link. A large red "Login" button is located at the bottom right. At the bottom center, there is a link "Not Registered Yet? [Create an account](#)".

→ Instructor Login Page:

The screenshot shows the 'INSTRUCTOR LOGIN' section of the online course system. It features a logo for Bannari Amman Institute of Technology and a circular illustration of a person working at a desk with a computer monitor displaying a dashboard. Below the illustration, there is a link for students to log in. On the right side, there is a 'Login to your Account' form with fields for Email/Instructor ID and Password, and options for Google or Email sign-in, Remember Me, and Forgot Password. A 'Login' button is at the bottom of the form, and a 'Create an account' link is located below it.

ONLINE COURSE SYSTEM

BANNARI AMMAN  
INSTITUTE OF TECHNOLOGY  
Stay Ahead

INSTRUCTOR LOGIN

Are you a student? [login](#)

Login to your Account

Continue with Google

-----Or Sign In With Email-----

Email/Instructor ID

prathiksha@bitsathy.ac.in

Password

\*\*\*\*\*

Remember Me [Forgot Password?](#)

Login

Not Registered Yet? [Create an account](#)

→ Student Home Page:

The screenshot shows the main home page of the online course system. At the top, there is a navigation bar with links for Home, Profile, My courses, Leadboard, Find courses, Chatboard, and a search bar labeled 'Explore courses'. Below the navigation, there is a large call-to-action banner with the text 'Find the right online course for you.' and 'STUDY, TRAIN, SUCCEED'. To the right of the banner, there is an illustration of people interacting with a laptop displaying a presentation. A 'Get Started' button is located at the bottom left of the banner area.

ONLINE COURSE SYSTEM

BANNARI AMMAN  
INSTITUTE OF TECHNOLOGY  
Stay Ahead

Explore courses

Home Profile My courses Leadboard Find courses Chatboard

Search courses

Find the right online course for you.

STUDY, TRAIN, SUCCEED

Get Started

→ Student Profile Page:

The screenshot shows the student profile page for Prathiksha S. At the top, there is a logo for Bannari Amman Institute of Technology and a search bar labeled "Explore courses". Below the header, a navigation bar includes links for Home, Profile (which is underlined), My courses, Leadboard, Find courses, and Chatboard. A notification bell icon is also present.

Courses enrolled: 02

Graphic Design

UI Development

Personal details

P Prathiksha S  
Email id: prathiksha.al22@bitsathy.ac.in

Achievements

Top 10 (Graphic Designer)  
Consistency in watching tutorials.  
Active in chatboard

Progress status:

Current streak: 50 days  
Highest streak: 50 days

→ My Courses Page:

The screenshot shows the "My courses" page. At the top, there is a logo for Bannari Amman Institute of Technology and a search bar labeled "Explore courses". Below the header, a navigation bar includes links for Home, Profile, My courses (which is underlined), Leadboard, Find courses, and Chatboard. A notification bell icon and a user profile icon are also present.

**Courses ongoing**

**Graphic Design**  
Start date: 02/03/2024  
End date: 05/06/2024  
[About this course](#) [Chat Board](#)

**UI Development**  
Start date: 15/04/2024  
End date: 20/07/2024  
[About this course](#) [Chat Board](#)

[Task Details](#) [Progress Status](#)

→ Instructor's Home Page:

The screenshot shows the homepage of an "ONLINE COURSE SYSTEM". At the top left is the logo of Bannari Amman Institute of Technology. To the right of the logo is the text "ONLINE COURSE SYSTEM". On the far right is a green button labeled "Explore courses" with a magnifying glass icon. Below the header is a navigation bar with links: "Home", "Profile", "Add tutorials", "Leadboard", "Evaluate task", "Chatboard", a bell icon, and a purple circular icon with a white letter "P".

**Online Education**

A curious mind cannot be satisfied. It wants to see, feel, and learn every day. What better place for a curious child than the classroom? Teachers who encourage curiosity in their students will know that they made an impact that will last a lifetime.

Interact with students

The main content area features a large illustration of a person sitting at a desk with two computer monitors, interacting with a speech bubble containing a gear icon. The background of the illustration is filled with binary code (0s and 1s) and computer server racks.